

AMENDMENTS TO THE CLAIMS

1. (currently amended): A knee orthosis, comprising:  
a medial tracking member that operatively fits along a lateral side of, and provides medial traction to, a patella having patellofemoral articular tissue; and  
a concentrated, medial and posterior traction and active, inward tracking member that operatively fits over, and provides concentrated, medial and posterior and active, inward pressure against, the patella;  
wherein the concentrated, medial and posterior traction and active, inward tracking member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.
2. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior and active, inward pressure is applied through an intermittent and progressively increased tightening of the concentrated, medial and posterior traction and active, inward tracking member.
3. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction and active, inward tracking member directly overlays the patella and the medial tracking member so that medial traction can be placed on the patella.
4. (original): The knee orthosis of claim 1 wherein the medial tracking member is adjustable to increase or decrease an amount of medial traction.
5. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction and active, inward tracking member is adjustable to increase or decrease an amount of inward pressure.
6. (currently amended): The knee orthosis of claim 1 wherein the concentrated, medial and posterior traction and active, inward tracking member provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.
7. (original): The knee orthosis of claim 6 wherein the continuous compressive force is substantially the same throughout the extension motion.
8. (original): The knee orthosis of claim 6 wherein the continuous compressive force increases

throughout the extension motion.

9. (original): The knee orthosis of claim 1 further comprising a polycentric hinge having an axis that maintains a parallel position with respect to an associated knee throughout a flexion or extension motion of the knee.
10. (currently amended): The knee orthosis of claim 9 wherein the polycentric hinge is bicentric and the concentrated, medial and posterior traction and active, inward tracking member is operatively attached to the hinge and aligned substantially perpendicular to the hinge axis.
11. (currently amended): The knee orthosis of claim 10 wherein the concentrated, medial and posterior traction and active, inward tracking member is mounted on the hinge, or operatively loops through a ring that is aligned parallel to the hinge axis.
12. (currently amended): The knee orthosis of claim 1 further comprising an elastic, breathable sleeve having attachment positions for anchoring and adjusting the medial tracking member and the concentrated, medial and posterior traction and active, inward tracking member.
13. (original): The knee orthosis of claim 1 wherein the medial tracking member comprises a synthetic tube that is covered with an elastic material, a raised spacing member, or a raised extension member.
14. (original): The knee orthosis of claim 1 wherein the inward trackingmedial and posterior traction member comprises an elastic, adjustable strap.
15. (currently amended): A knee orthosis, comprising:  
a concentrated, medial and posterior traction and active, inward tracking member that operatively fits over, and provides concentrated, medial and posterior and active, inward pressure against, a patella having patellofemoral articular tissue;  
wherein the inward trackingmedial and posterior traction member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.
16. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and

~~posterior and active, inward tracking~~ pressure is applied through an intermittent and progressively increased tightening of the concentrated, ~~medial and posterior traction and active, inward tracking~~ member.

17. (currently amended): The knee orthosis of claim 15 wherein the concentrated, ~~medial and posterior traction and active, inward tracking~~ member directly overlays the patella and a medial tracking member so that medial traction can be placed on the patella.

18. (original): The knee orthosis of claim 15 wherein the medial tracking member is adjustable to increase or decrease an amount of medial traction.

19. (currently amended): The knee orthosis of claim 15 wherein the concentrated, ~~medial and posterior traction and active, inward tracking~~ member is adjustable to increase or decrease an amount of inward pressure.

20. (currently amended): The knee orthosis of claim 15 wherein the concentrated, ~~medial and posterior traction and active, inward tracking~~ member provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.

21. (original): The knee orthosis of claim 15 wherein the continuous compressive force is substantially the same throughout the extension motion.

22. (original): The knee orthosis of claim 15 further comprising a polycentric hinge having an axis that maintains a parallel position with respect to an associated knee throughout a flexion or extension motion of the knee.

23. (currently amended): The knee orthosis of claim 22 wherein the polycentric hinge is bicentric and the concentrated, ~~medial and posterior traction and active, inward tracking~~ member is operatively attached to the hinge and aligned substantially perpendicular to the hinge axis.

24. (currently amended): The knee orthosis of claim 23 wherein the concentrated, ~~medial and posterior traction and active, inward tracking~~ member is mounted on the hinge, or operatively loops through a ring that is aligned parallel to the hinge axis.

25. (currently amended): The knee orthosis of claim 15 further comprising an elastic, breathable

sleeve having attachment positions for anchoring and adjusting a medial tracking member and the concentrated, medial and posterior traction and active, inward tracking member.

26. (currently amended): The knee orthosis of claim 15 wherein the concentrated, medial and posterior traction and active, inward tracking member comprises an elastic strap.

27. (currently amended): An orthotic method for tracking a patella, comprising:  
applying a medial tracking member that operatively fits along a lateral side of, and provides medial traction to, a patella having patellofemoral articular tissue; and  
applying a concentrated, medial and posterior traction and active, inward tracking member that operatively fits over, and provides concentrated, medial and posterior and active, inward pressure against, the patella;

wherein the inward medial and posterior traction and active, inward tracking member provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.

28. (currently amended): The method of claim 27 wherein the inward pressure is applied through an intermittent and progressively increased tightening of the concentrated, medial and posterior traction and active, inward tracking member.

29. (currently amended): The method of claim 28 wherein the medial traction applied through the intermittent and progressively increased tightening of the concentrated, medial and posterior traction and active, inward tracking member increasingly stretches lateral patellar connective tissue over time.

30. (cancelled)

31. (cancelled)

32. (currently amended): A knee orthosis, comprising:  
a concentrated, medial and posterior traction and active, inward pressure strap that operatively fits over, and provides concentrated, medial and posterior and active, inward pressure against, a patella having patellofemoral articular tissue;  
wherein the concentrated, medial and posterior traction and active, inward pressure strap provides a compressive force against the patella, thereby increasing the contact surface area between

the patellofemoral articular tissue and an associated femoral trochlear groove.

33. (previously presented): The knee orthosis of claim 32 further comprising a medial tracking strap that operatively fits along a lateral side of, and provides medial traction to, the patella.

34. (currently amended): The knee orthosis of claim 33 wherein the concentrated, medial and posterior traction and active, inward pressure strap directly overlays the patella and the medial tracking strap so that medial traction can be placed on the patella.

35. (previously presented): The knee orthosis of claim 34 wherein the medial tracking strap is adjustable to increase or decrease an amount of medial traction.

36. (currently amended): The knee orthosis of claim 32 wherein the concentrated, medial and posterior traction and active, inward pressure strap is adjustable to increase or decrease an amount of inward pressure.

37. (currently amended): The knee orthosis of claim 36 wherein the concentrated, medial and posterior tracking and active, inward pressure strap provides continuous compressive force against the patella throughout a full range of extension motion of an associated knee.

38. (currently amended): The knee orthosis of claim 36 further comprising opposing lateral and medial hinges each having longitudinal axes that maintain a substantially parallel position with respect to an associated knee throughout a flexion or extension motion of the knee;

wherein a first opposing portion of the concentrated, medial and posterior traction and active, inward pressure strap is operatively attached to the lateral hinge and a second opposing portion of the concentrated, medial and posterior traction and active, inward pressure strap is operatively attached to the medial hinge, the concentrated, medial and posterior traction and active, inward pressure strap being aligned substantially perpendicular to the longitudinal axes.

39. (currently amended): The knee orthosis of claim 38 further comprising an elastic, breathable sleeve having attachment positions for anchoring and adjusting the medial tracking strap and the concentrated, medial and posterior traction and active, inward pressure strap.

40. (currently amended): An orthotic method for treating a patella, comprising:  
applying a medial tracking strap that operatively fits along a lateral side of, and provides

medial traction to, a patella having patellofemoral articular tissue; and

applying a concentrated, medial and posterior traction-and-active, inward pressure strap that operatively fits over, and provides concentrated, medial and posterior-and-active, inward pressure against, the patella;

wherein the concentrated, medial and posterior traction-and-active, inward pressure strap provides a compressive force against the patella, thereby increasing the contact surface area between the patellofemoral articular tissue and an associated femoral trochlear groove.